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ABSTRACT

A systems approach to evaluation of the Diagnostic Reading Clinic Program's progress and its effects upon participating pupils from the Cleveland schools is reported on in this document. Formal evaluation of the Diagnostic Reading Clinic Program is directed toward the following objectives: to assess the extent to which the Diagnostic Reading Clinic has fulfilled its objectives; to describe, through objective measurement and statistical analysis, the amount of reading growth pupils have achieved through the diagnostic-prescriptive approach proposed by the clinic; to inform the clinic staff, administration, school personnel, and other concerned audiences of the current status of the Diagnostic Reading Clinic's efforts with pupils; and to provide feedback to those who are directly concerned with the direction, management, planning, implementation, and instructional operations of the clinic concerning implications which have resulted from the analysis of data collected for purposes of evaluation. (TS)

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Article Title: Monitoring Process and Assessing Product

Symposia Session: An Interdisciplinary Approach to Corrective Instruction

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AN INTERDISCIPLINARY APPROACH TO CORRECTIVE INSTRUCTION

Part IV

Monitoring Process and Assessing Product

Formal evaluation of the Diagnostic Reading Clinic Program is directed toward the following objectives:

1. To assess the extent to which the Diagnostic Reading Clinic has fulfilled its objectives.

2. To describe, through objective measurement and statistical analysis, the amount of reading growth pupils have achieved through the diagnostic-prescriptive approach proposed by the Clinic.

3. To inform Clinic staff, administration, school personnel and other concerned audiences of the current status of the Diagnostic Reading Clinic's efforts with pupils.

4. To provide feedback to those, who are directly concerned with the direction, management, planning, implementation and instructional operations of the Clinic concerning implications which have resulted from the analysis of data collected for purposes of evaluation.

Monitoring and assessment procedures are begun by trained clinicians under the direction of the Educational Program Manager, Mrs. Pauline Davis, at the time that the child is referred by the home school. A "living profile" is generated as information is gathered on each referred pupil. This rationale of input is reflected in the evaluation plan developed by Dr. Margaret Fleming in 1967.

(Transparency: Relationship of Input, Treatment, and Output Variables) Insert Chart I here.

A more detailed explanation of the evaluation plan lists specific objectives, types of instruments to be used for data collection and the data analysis processes.

In addition, the criteria by which each objective is to be measured is stated.

(Transparency: Plan for Evaluation) Insert Chart II here

Comparison of achievement data showing pre and post-program reading levels for each pupil with that pupil's reading expectancy, as established by the Bond-Tinker Formula, is basic to the determination of that pupil's reading status at the given point in time. In 1971, we undertook a comparative study of the reading expectancies of 35 pupils using the Bond-Tinker, Harris and Los Angeles formula for the purpose of examining our position in the choice of Formula. The Rodenborn study, published in the Reading Teacher, December 1974, confirmed our findings that in evaluation of the effectiveness of reading programs, the Bond-Tinker formula provides a better estimate of the potential for pupils who are referred to corrective reading programs.

(Transparency: A Sample Computation of Reading Expectancy using the Bond-Tinker, Harris and Horn Formula) Insert Chart III

Selection criteria for pupil participation in the Diagnostic Reading Clinic requires that pupils must be at least one year below grade level placement in reading. Their scholastic aptitude must be within the average and above average range. This information suggests that at the time of the pupil's admittance to the Diagnostic Reading Clinic, a decided deviation below expectancy has developed. The formula chosen for the Reading Expectancy would have to be one which would be most appropriate for the pupil population which the Diagnostic Reading Clinic serves.

A review of evaluation samples from 1968 through 1974 showed that 38.0 to 61 per cent of the pupils during those years were two and

more years below their reading expectancies at the time that they were admitted to the Diagnostic Reading Clinic. Within that same span of time, from 37 to 60 per cent of pupils achieved the criterion level within one year and above their reading expectancies, post-program.

Scores from the Gates MacGinitie Reading Tests, administered pre and post-treatment, provide a measurement of a given pupil's silent reading power. Diagnostic assessment with the Gates McKillop Diagnostic Reading Tests permits the identification of reading skills weaknesses which are considered contributing aspects of reading performance levels suggestive of corrective prescriptive plans for the clinical staff. Scholastic aptitude information, gathered from the pupil school records, is augmented with the Weschler Intelligence Test for Children, administered by psychologists. Audiometric screening and testing by speech therapists and health screening by the clinic's nurse with follow-up, are vital parts of the diagnostic progress. Evaluation concerns itself with the objective data generated in this diagnostic process. These include:

- scholastic aptitude scores from group tests
- individual assessment results from the Weschler Intelligence Scale for children
- individual scores from the Stanford Binet Intelligence Test
- chronological age upon admittance to remediation
- scores from administration of the Gates McKillop Diagnostic Reading Test
- Gates MacGinitie Reading Test Scores

Teachers indicate their assessment of the areas in which pupils have reading difficulty at the time of referral. The Division of Research

and Development requests a rating of individual pupils' reading status and the degree of improvement in reading skills areas from the classroom teacher on a five point rating scale at the time of data collection. The scale attempts to obtain a description of the child's reading performance in the classroom in such areas as:

- participation in group reading
- self-confidence in the reading process
- mastery of reading assignments
- general attitude toward school.

Success indicators for pupils are observed in:

1. Changes in reading performance as indicated by scores on standardized reading tests and teachers' ratings.
2. Changes in behavioral patterns involving reading performance and attitude toward reading as indicated by teacher and parent observation.
3. Changes in school achievement as indicated by school marks of participants.

Sections of the evaluation are devoted to interpretations of the statistical analysis of results obtained through standardized testing. Summaries of the opinions of parents and teachers with accompanying recommendations are included.

The growth of the Diagnostic Reading Clinic is evident in the increasing number of children it is serving. In 1967-68, the Diagnostic Clinic served 465 children. At the end of the 1973-74 year, the Clinic had served 2,356 pupils from Cleveland schools, public and non-public. In contrast the cost of corrective instruction had decreased.

One of the most fascinating aspects of the evaluation process is the emergence of implications for growth that are generated through

objective data analysis. Early in the history of the clinic, evaluation results showed that patterns of flexible time periods were needed for improvement of pupil's reading growth. Reappearance of this pattern in the following year's evaluation resulted in the establishment of long, short and moderate-term periods of instruction. Assignment of pupils to these flexible periods of instruction is done by clinic staff. Evaluation of units of gain is directly related to these specific groups based upon their periods of service. Comparisons of gains made by the various groups from year to year have clearly shown that the clinic has not served the same pupil population from year to year.

(Transparency: Average Grade Equivalent Gains By Long, Moderate and Short-Term Groups) Insert Chart IV

Parents and teachers suggested the need for more service from the Clinic for more children in 1970. Clinic records showed that a full quota of children were being served. Communication through opinionnaires from teachers and parents revealed that a need existed for the provision of additional service from the Clinic to more pupils. In 1972, two Satellite Clinic school-based centers were opened in schools which were in close proximity to neighboring schools. The third Satellite Clinic Center opened on the West side of Cleveland in 1974 to serve a group of west side schools, relieving a transportation problem.

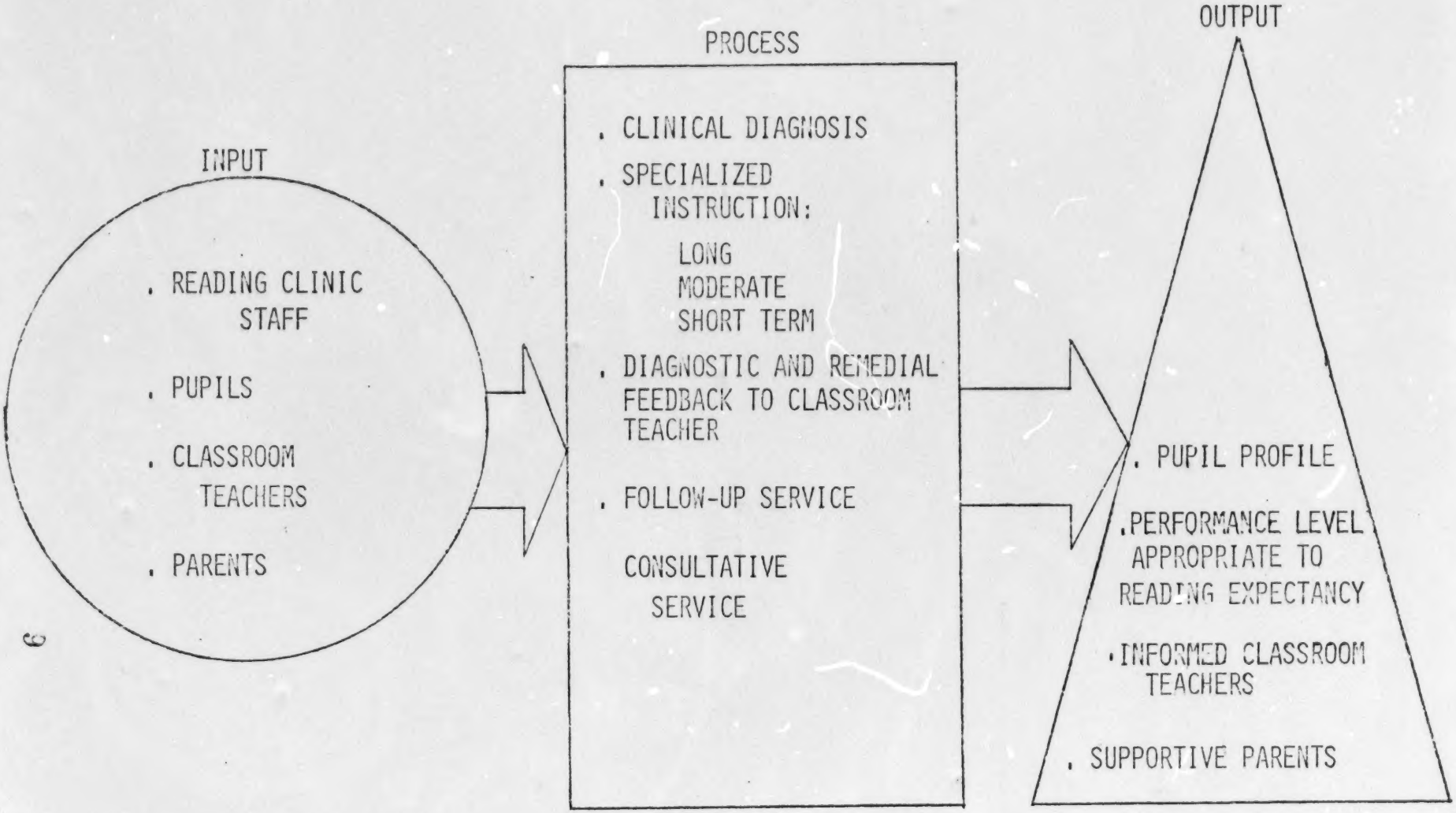
Longitudinal studies of pupils' progress in later grades, after completion of their terms at the Clinic, revealed a regression pattern for some pupils after their return to the classroom. It was recognized that many pupils lose confidence in their reading ability once they have moved from the intimacy and concern of the clinic staff and it environs.

However, the reading power they had demonstrated at the time of post-treatment had been documented through the evaluation process. Continuation of support for these pupils was indicated. In 1972, the Diagnostic Reading Clinic implemented the Follow-up Clinician component. A corp of Clinicians was assigned the task of providing follow-up services to children who had been clinic participants in their home schools, where logistically feasible. During the 1973-74 school year eight Follow-up Clinicians assisted 428 of these pupils. Analysis of their test scores showed that the mean standard score for this group was stanine five on the Gates MacGinitie Reading Test at the end of the year. The reading power had been maintained. Periodically, we invite a team of observers to view the Diagnostic Reading Clinics' operational style and ask that they tell us,"How do you view the effects of this process?" Armed with a locally constructed instrument, a schedule and a description of the model, these observers spend some time at the clinic and its other components. In a debriefing session, they provide us with another aspect of evaluation which we view as necessary and rewarding. Each observer brings to the observation the strength of special areas, knowledge and experience. Their suggestions are often considered for future directions.

Our approach to evaluation is a systems approach. Working with the Diagnostic Clinic, through our evaluation efforts, we seek to lend support in the planning, implementation, assessment, modification, and objective feedback stages. We attempt to identify strengths and weaknesses, provide interpretations, report additional needs, record the history of the clinic's progress and document its effects upon participating pupils from the Cleveland schools.

CHART I

RELATIONSHIP OF INPUT, TREATMENT AND OUTPUT VARIABLES
DIAGNOSTIC READING CLINIC



DIVISION OF RESEARCH AND DEVELOPMENT
CLEVELAND PUBLIC SCHOOLS

CHART II

PLAN FOR EVALUATION

DIAGNOSTIC READING CENTER

OBJECTIVE	DATA COLLECTION	DATA ANALYSIS	CRITERION
1. TO IMPROVE THE READING SKILLS OF CHILDREN WITH SERIOUS READING DISABILITIES IN EFFORT TO BRING THEM UP TO AN APPROPRIATE FUNCTIONING FOR THEIR READING EXPECTANCY, WHICH SHALL BE DETERMINED BY THE DOND-TINNER FORMULA. TWO CRITERIA WILL BE CONSIDERED INDICATIVE OF APPROPRIATE FUNCTIONING AS INDICATED IN THE CRITERIA COLUMN.	PRE-PROGRAM ADMINISTRATION OF GATES-MCKILLOP DIAGNOSTIC READING TESTS, FORMS I & II AND WECHSLER INTELLIGENCE SCALE FOR CHILDREN AND/OR COGNITIVE ABILITIES TESTS MULTI-LEVEL FORMS PRE-POST ADMINISTRATION OF GATES-MACGINITIE READING TESTS, APPROPRIATE FORMS. PUPIL RATING SCALE	$O^1 \times O^2$ (NO CONTROLS AVAILABLE) DESCRIPTIVE REPORT OF PERCENTAGE OF PUPILS REACHING APPROPRIATE FUNCTIONING AND USE OF CLASSROOM MATERIALS	INDEPENDENT PERFORMANCE BY ONE OUT OF TWO PUPILS, RECEIVING FULL SERVICE, WITH THE READING MATERIALS IN USE IN REGULAR CLASSES AT LEAST HALF OF THE TIME. ACHIEVEMENT ON STANDARDIZED READING TESTS WITHIN AT LEAST A YEAR OF PUPIL'S READING EXPECTANCY LEVEL--WHICH IS TO BE DEMONSTRATED BY 40% OF THE PUPILS RECEIVING FULL SERVICE.
2. TO CO-ORDINATE SERVICES OF RELATED DISCIPLINES IN THE DIAGNOSIS AND CORRECTION OF READING DIFFICULTIES.	CLINIC RECORDS	DESCRIPTIVE REPORT	FOR EVERY PUPIL SERVICED, A CASE RECORD WILL BE COMPILED GIVING EVIDENCE OF CO-ORDINATION OF CLINIC SERVICES.

CHART II (CONT'D)
PLAN FOR EVALUATION
DIAGNOSTIC READING CENTER

OBJECTIVE	DATA COLLECTION	DATA ANALYSIS	CRITERION
3. TO FACILITATE PARENTAL INVOLVEMENT AND SUPPORT IN THE REMEDIATION OF PUPIL READING DISABILITIES.	CLINIC RECORDS PARENT QUESTIONNAIRE	DESCRIPTIVE REPORT	AT LEAST 75 PER CENT OF PARENTS WILL BE REACHED.
4. TO PROVIDE FOLLOW-UP SERVICE FOR CLINIC PUPILS REQUIRING SUPPORT AT THEIR HOME SCHOOL, MONITORING PROGRESS OF AT LEAST 50 PER CENT OF THE PUPILS INVOLVED, IN SCHOOLS WHERE LOGISTICALLY FEASIBLE.	CLINIC RECORDS POST-TESTING WITH APPROPRIATE FORM OF GATES-MACGINITIE	DESCRIPTIVE REPORT	FIFTY PER CENT OF PUPILS, NEEDING SUPPORT IN HOME SCHOOLS WILL BE FOLLOWED UP WHERE LOGISTICALLY POSSIBLE, ONE OUT OF TWO PUPILS WILL MAINTAIN ACHIEVEMENT ON STANDARDIZED READING TESTS WITHIN AT LEAST A YEAR OF PUPIL'S READING EXPECTANCY LEVEL.

CHART II (CONT'D)

PLAN FOR EVALUATION

DIAGNOSTIC READING CENTER

OBJECTIVE	DATA COLLECTION	DATA ANALYSIS	CRITERION
5. TO PROVIDE CONSULTATION SERVICE TO CLASSROOM TEACHERS OF PUPILS RECEIVING SERVICE.	CLINIC RECORDS TEACHER QUESTIONNAIRE	DESCRIPTIVE REPORT	AT LEAST 75 PER CENT OF CLASSROOM TEACHERS OF PUPILS RECEIVING SERVICE WILL BE CONTACTED-- RECEIVING EITHER REPORTS, PARTICIPATING IN CONFERENCE VISITING THE CLINIC, ATTENDING DEMONSTRATION MEETINGS AT WHICH THE CLINIC STAFF DISCUSSES REFERRALS FROM SCHOOL AND CLINIC SERVICES.

CHART III

READING EXPECTANCY BY THREE FORMULAE
HARRIS, HORN AND BOND-TINKER

SUBJECT	FORMULA
PETER JONES BORN 10-19-60 AGE 11-9 GRADE - 6 (SEPT. 72) I.Q. - 80	HARRIS READING EXPECTANCY = $\frac{2\,MA + CA - 5.2}{3}$ $\qquad MA = \frac{CA \times IQ}{100} = 9.52$ $\frac{19.04 + 11.9 - 5.2}{3} = 8.6$ YEARS
GATES MCKILLOP ORAL READING SCORE 3.6 SILENT READING GATES MACGINITIE SCORE - 3.0 COMPOSITE 3.3	BOND-TINKER READING EXPECTANCY = $\frac{I.Q \times \text{YEARS IN SCHOOL}}{100} + 1.0$ $\frac{5.9 \times 80}{100} + 1.0 = 5.7$ YEARS HORN READING EXPECTANCY = $\frac{2\,MA + CA - 5.0}{3}$ $\frac{19.04 + 11.9 - 5.0}{3} = 8.7$ YEARS

CHART IV

AVERAGE GAINS IN GRADE EQUIVALENT UNITS
IN COMPREHENSION
DIAGNOSTIC READING CLINIC

YEAR	SERVICE GROUP	AVERAGE GAIN	SERVICE PERIOD IN MONTHS
1969-70	LONG	1.86	5.00
	MODERATE	1.51	3.00
	SHORT	.61	2.50
1970-71	LONG	7.70	4.50
	MODERATE	3.70	3.10
	SHORT	7.30	2.10
1971-72	LONG	11.57	4.50
	MODERATE	10.63	3.75
	SHORT	8.00	2.00
1972-73	LONG	16.60	5.50
	MODERATE	6.11	3.63
	SHORT	7.00	2.60
1973-74	LONG	5.00	6.97
	MODERATE	9.50	4.41
	SHORT	7.81	2.40

DIVISION OF RESEARCH
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